

**Figure 1**

**MKLP1 (variant 1) open reading frame (SEQ\_ID NO:1) and translation to corresponding polypeptide (SEQ\_ID NO:2)**

5

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MKLP1 var.1 1      atgaagtcacgagagctaagacacccggaaacctaccgtaaaaagggtccaaacg
                    1      M K S A R A K T P R K P T V K K G S Q T
MKLP1 var.1 61     aaccttaagacccagttgggtatactgttaggtgcgcactggcttcgtatcaa
10      21      N L K D P V G V Y C R V R P L G F P D Q
MKLP1 var.1 121    gagtgttgcataagaatgtatataacaactgttcagcttcatctcgtaggctac
                    41      E C C I E V I N N T T V Q L H T P E G Y
MKLP1 var.1 181    agactcaaccgaaatggagactataaggagactcagtattcatcaaacttggc
                    61      R L N R N G D Y K E T Q Y S F K Q V F G
15      MKLP1 var.1 241 actcacaccaccagaaggaaactctttatgtgtggctaatccctggtaatgacctc
                    81      T H T T Q K E L F D V V A N P L V N D L
MKLP1 var.1 301    attcatggcaaaaatggcttctttatcatatgggtgcggaaagtggaaaaactcac
                    101     I H G K N G L L F T Y G V T G S G K T H
MKLP1 var.1 361    acaatgactgttctccaggagaaggaggctgtttcgatgtttggacatgttt
20      121     T M T G S P G E G G L L P R C L D M I F
MKLP1 var.1 421    aacagtatagggtcatttcaagctaaacgataiyilltcaaatctaatgtatggaaatgt
                    141     N S I G S F Q A K R Y V F K S N D R N S
MKLP1 var.1 481    atggatatacagtgtgagggtatgccttattagaacgtcagaaaagagaagctatgcc
                    161     M D I Q C E V D A L L E R Q K R E A M P
25      MKLP1 var.1 541 aatccaaagacttcttctagcaaacgacaactgtatccagatgtttcagatgtataact
                    181     N P K T S S S K R Q V D P E F A D M I T
MKLP1 var.1 601    gtacaagaattctgcaaagcagaagaggttatgtaaatgtatgggttgc
                    201     V Q E F C K A E E V D E D S V Y G V F V
MKLP1 var.1 661    tcttatattgaaatatataattacatataatgtatcttggaaagaggtgcgtttgat
30      221     S Y I E I Y N N Y I Y D L L E E V P F D
MKLP1 var.1 721    cccataaaacccaaacctccacaatctaaattgttcgtgaagataagaaccataacatg
                    241     P I K P K P P Q S K L L R E D K N H N M
MKLP1 var.1 781    tatgttgcaggatgtacagaaggttatgtaaatctactgaggaggctttgaagtttc
                    261     Y V A G C T E V E V K S T E E A F E V F
35      MKLP1 var.1 841 tggagaggccagaaaaagagacgtattgtctaataccattgtatccgtgagtccagccgt
                    281     W R G Q K K R R I A N T H L N R E S S R
MKLP1 var.1 901    tccccatagctgttcaacattaaattagttcaggctccctggatgcagatggagacaat
                    301     S H S V F N I K L V Q A P L D A D G D N
MKLP1 var.1 961    gtcttacaggaaaaagaacaaatcactataactgtatccgtgagtccctggatcttgctgga
40      321     V L Q E K E Q I T I S Q L S L V D L A G
MKLP1 var.1 1021   agtggaaaactaacccgaccagagcagaagggaaacagattacgtgaagctggtaatatt
                    341     S E R T N R T R A E G N R L R E A G N I

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MKLP1 var.1 1081 aatcagtcactaatacgctaaagaacatgttatggatgtcctaagagagaaccaaatttat  
           361 N Q S L M T L R T C M D V L R E N Q M Y  
 MKLP1 var.1 1141 ggaactaacaagatggccatatacgagattcaaggtaaccatctgttcaagaactac  
           381 G T N K M V P Y R D S K L T H L F K N Y  
 5 MKLP1 var.1 1201 tttgatggggaggaaaatgtcgatgatcgatgtgtgaaccccaaggctgaagattat  
           401 F D G E G K V R M I V C V N P K A E D Y  
 MKLP1 var.1 1261 gaagaaaacttgcaagtcatqagatggcggaaatgtgactcaagaatgtgaagtagcaaga  
           421 E E N L Q V M R F A E V T Q E V E V A R  
 MKLP1 var.1 1321 cctgttagacaaggcaataatgtggtaacgcctgggaggagatacagaaaccagcctcga  
 10           441 P V D K A I C G L T P G R R Y R N Q P R  
 MKLP1 var.1 1381 ggtccagttggaaatgaaccattggtaactgacgtggggcagagtttccaccttg  
           461 G P V G N E P L V T D V V L Q S F P P L  
 MKLP1 var.1 1441 ccgtcatgcgaaattttgatatacgatgagcagacacttccaaggctgattgaagcc  
           481 P S C E I L D I N D E Q T L P R L I E A  
 15 MKLP1 var.1 1501 ttagagaaacgacataacttacgacaaatgtatgattgtatgatgatgttacaaacaaatcta  
           501 L E K R H N L R Q M M I D E F N K Q S N  
 MKLP1 var.1 1561 gcttttaaagctttgttacaagaatgtgatacgatgttttaagtaaaagaaaaccatg  
           521 A F K A L L Q E F D N A V L S K E N H M  
 MKLP1 var.1 1621 caagggaaactaaatgaaaaggagaagatgtctcaggacagaaaattggaaatagaacga  
 20           541 Q G K L N E K E K M I S G Q K L E I E R  
 MKLP1 var.1 1681 ctggaaaagaaaaacaaaacttttagataatagattgagatgttagagaaaacaactact  
           561 L E K K N K T L E Y K I E I L E K T T T  
 MKLP1 var.1 1741 atctatgaggaagataaacgcatttgcacaggaaactcagaaccagaaaactt  
           581 I Y E E D K R N L Q Q E L E T Q N Q K L  
 25 MKLP1 var.1 1801 cagcgcacagtttctgacaaacgcagattagaagccagggtgcaaggcatggacagaa  
           601 Q R Q F S D K R R L E A R L Q G M V T E  
 MKLP1 var.1 1861 acgcacaatgaaatgggagaaagaatgtgagcgttagatggcagccaaacagctggagatg  
           621 T T M K W E K E C E R R V A A K Q L E M  
 MKLP1 var.1 1921 cagaataaaactctgggtaaaagatgaaaagctgaaacaactgaaggctattgttactgaa  
 30           641 Q N K L W V K D E K L K Q L K A I V T E  
 MKLP1 var.1 1981 cctaaaactgagaagccagagagacccctctggagcgagatcgagaaaaatgtactcaa  
           661 P K T E K P E R P S R E R D R E K V T Q  
 MKLP1 var.1 2041 agatctgtttccatcacctgtgcctttctgtactataattgtcagattccaac  
           681 R S V S P S P V P L S S N Y I A Q I S N  
 35 MKLP1 var.1 2101 ggccagcaactcatgagccagccacagctacataggcgcttaactcttgcagcaggatt  
           701 G Q Q L M S Q P Q L H R R S N S C S S I  
 MKLP1 var.1 2161 tctgttagcttcgttattcgaaatgggagcagaaaattcctacgtacaacacacctctc  
           721 S V A S C I S E W E Q K I P T Y N T P L  
 MKLP1 var.1 2221 aaagtcacatctattgcaaggcgttaggcagcaggagccaggacaaagcaaaacttgtatc  
 40           741 K V T S I A R R R Q Q E P G Q S K T C I  
 MKLP1 var.1 2281 gtgtcagacagaaggcgagggatgtactggactgaaggcaggaggtggccatcattc  
           761 V S D R R R G M Y W T E G R E V V P T F  
 MKLP1 var.1 2341 agaaatgagatagaatagaagaggatcattgcggcaggttactttcaacctgatcag  
           781 R N E I E I E D H C G R L L F Q P D Q

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MKLP1 var.1 2401 aacgcaccacaattcgctccgacacagacgtcacgctctgcaggagacagatgggta  
801 N A P P I R L R H R R S R S A G D R W V  
MKLP1 var.1 2461 gatcataagccgcctctaacatgcaaactgaaacagtcatgcagccacatgtccctcat  
821 D H K P A S N M Q T E T V M Q P H V P H  
5 MKLP1 var.1 2521 gccatcacagtatctgttgc当地gaaaaggcactagctaagtgtgagaagtacatgtg  
841 A I T V S V A N E K A L A K C E K Y M L  
MKLP1 var.1 2581 acccaccaggaaactagcctccatggggagattgaaactaaactaattaagggtgatatt  
861 T H Q E L A S D G E I E T K L I K G D I  
MKLP1 var.1 2641 tataaaacaaggggtggtggacaatctgttcagttactgatattgagactttaagcaa  
10 881 Y K T R G G Q S V Q F T D I E T L K Q  
MKLP1 var.1 2701 gaatcaccaaattggtagtc当地aaaacgaagatcttccacagtagcacctgccc当地accagat  
901 E S P N G S R K R R S S T V A P A Q P D  
MKLP1 var.1 2761 ggtgc当地aggctctgaatggaccgatgttagaaacaagggtgttctgtggctgtggagatgaga  
921 G A E S E W T D V E T R C S V A V E M R  
15 MKLP1 var.1 2821 gcaggatccc当地ctggacctggatatcagcatcacgacaacccaagcgcaaaaagcca  
941 A G S Q L G P G Y Q H H A Q P K R K K P  
MKLP1 var.1 2881 tga  
961 \*

Applicants: Paz Einat et al.  
U.S. Serial No.: Not Yet Known  
Filing Date: September 24, 2003  
Title: MITOTIC KINESIN-LIKE PROTEIN-I,  
MKLP1, AND USES THEREOF  
3 of 9

**Figure 2**

**MKLP1 Antisense fragment**

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5' TGCTCTGGGTCA~~G~~TATGATGTAGCTGAGGTCCGTGATTAA~~C~~AAAGCTGGAGTTC  
TACAAGATGACCTGGAAGACTGCTTCTGGCATGGCTTCGAGAAATCATCCACACAAATG  
AAAATGTTCTTCAGTACTGGGACTGTCAGTTCATGGCTT~~GCGCTTGGGTTGTGCGTG~~  
ATGCTGATATCCAGGTCCCAGCT 3'

10

**Figure 3**

**Alignment between the MKLP1 open reading frame and the MKLP1 antisense fragment**

5	MKLP1 var. 2	1	GCAGAGCACCGCGCCTTAGCCCGAAGTTCTAGTTCTGCTGCCGTCTAACGTCCC
	MKLP1 AS	1	-----
10	MKLP1 var. 2	61	AGTCTTCGCCAGCCAGCCGTCCCGATGCGCTTGGCGGCTGGAGCCTGCTGCCATG
	MKLP1 AS	1	-----
15	MKLP1 var. 2	121	AAGTCAGCGAGAGCTAACGACACCCCGGAAACCTACCGTGAAAAAAGGGTCCAAACGAAC
	MKLP1 AS	1	-----
20	MKLP1 var. 2	181	CTTAAAGACCCAGTTGGGTATACTGTAGGGTGCGCCACTGGCTTCCTGATCAAGAG
	MKLP1 AS	1	-----
25	MKLP1 var. 2	241	TGTTGCATAGAAGTGATCAATAATACAACGTGTTCACTCCTGAGGGCTACAGA
	MKLP1 AS	1	-----
30	MKLP1 var. 2	301	CTCAACCGAAATGGAGACTATAAGGAGACTCAGTATTCAATTAAACAAGTATTGGCACT
	MKLP1 AS	1	-----
35	MKLP1 var. 2	361	CACACCACCCAGAAGGAACCTTTGATGTTGGCTAACCTTGGTAATGACCTCATT
	MKLP1 AS	1	-----
40	MKLP1 var. 2	421	CATGGCAAAAATGGCTTCTTTTACATATGGTGTGACGGGAAGTGGAAAACACACA
	MKLP1 AS	1	-----
45	MKLP1 var. 2	481	ATGACTGGTTCTCCAGGGGAAGGAGGGCTGCTTCCTCGTTGGACATGATCTTAAC
	MKLP1 AS	1	-----
50	MKLP1 var. 2	541	AGTATAGGGTCATTCAAGCTAACGATATGTTCAAATCTAATGATAGGAATAGTATG
	MKLP1 AS	1	-----
55	MKLP1 var. 2	601	GATATACAGTGTGAGGTTGATGCCATTAGAACGTCAGAAAAGAGAAGCTATGCCAAT
	MKLP1 AS	1	-----
60	MKLP1 var. 2	661	CCAAAGACTTCTTAGCAAACGACAAGTAGATCCAGAGTTGCAGATATGATAACTGTA
	MKLP1 AS	1	-----
65	MKLP1 var. 2	721	CAAGAATTCTGCAAAGCAGAAGAGGTTGATGAAGATAGTGTCTATGGTGTATTGCTCT
	MKLP1 AS	1	-----
70	MKLP1 var. 2	781	TATATTGAAATATATAATAATTACATATATGATCTATTGGAGGGTGCCTTGATCCC
	MKLP1 AS	1	-----
75	MKLP1 var. 2	841	ATAAAACCCAAACCTCCACAATCTAAATTGCTCGTGAAGATAAGAACATAACATGTAT
	MKLP1 AS	1	-----
80	MKLP1 var. 2	901	GTTGCAGGATGTACAGAAGTTGAAGTGAATCTACTGAGGAGGCTTGAGTTCTGG
	MKLP1 AS	1	-----
85	MKLP1 var. 2	961	AGAGGCCAGAAAAAGAGACGTATTGCTAACCTTGAATCGTGAGTCCAGCCGTTCC
	MKLP1 AS	1	-----
90	MKLP1 var. 2	1021	CATAGCGTGTCAACATTAAATTAGTTCAAGGCTCCCTGGATGCAGATGGAGACAATGTC
	MKLP1 AS	1	-----
95	MKLP1 var. 2	1081	TTACAGGAAAAAGAACAAATCACTATAAGTCAGTTGTCCTGGTAGATCTGCTGGAAGT
	MKLP1 AS	1	-----

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MKLP1 var.2	1141	GAAAGAACTAACCGGACCAGAGCAGAAGGAACAGATTACGTGAAGCTGGTAATATTAAT
MKLP1 AS	1	-----
MKLP1 var.2	1201	CAGTCACTAATGACGCTAAGAACATGTATGGATGTCCTAACAGAGAGAACCAAATGTATGGA
MKLP1 AS	1	-----
5 MKLP1 var.2	1261	ACTAACAAAGATGGTCCATATCGAGATTCAAAGTTAACCCATCTGTTCAAGAACTACTTT
MKLP1 AS	1	-----
MKLP1 var.2	1321	GATGGGGAAGGAAAAGTGGCGATGATCGTGTGTGAACCCCAAGGCTGAAGATTATGAA
MKLP1 AS	1	-----
MKLP1 var.2	1381	GAAAACTTGCAAGTCATGAGATTGCGGAAGTGACTCAAGAAGTTGAAGTAGCAAGACCT
10 MKLP1 AS	1	-----
MKLP1 var.2	1441	GTAGACAAGGCAATATGTGGTTAACGCCTGGGAGGAGATAACAGAAACCAGCCTCGAGGT
MKLP1 AS	1	-----
MKLP1 var.2	1501	CCAGTTGGAAATGAACCATTGGTTACTGACGTGGTTTGCAAGAGTTCCACCTTGCCG
MKLP1 AS	1	-----
15 MKLP1 var.2	1561	TCATGCGAAATTTGGATATCACGATGAGCAGACACTTCCAAGGCTGATTGAAGCCTTA
MKLP1 AS	1	-----
MKLP1 var.2	1621	GAGAAACGACATAACTTACGACAAATGATGATTGAGTTAACAAACAATCTAATGCT
MKLP1 AS	1	-----
MKLP1 var.2	1681	TTTAAAGCTTGTACAAGAATTGACAATGCTGTTAACGAAAGAAAACCACATGCAA
20 MKLP1 AS	1	-----
MKLP1 var.2	1741	GGGAAACTAAATGAAAAGGAGAAGATGATCTCAGGACAGAAATTGAAATAGAACGACTG
MKLP1 AS	1	-----
MKLP1 var.2	1801	GAAAAGAAAAACAAAACCTTACAATATAAGATTGAGATTAGAGAAAACAACACTATC
MKLP1 AS	1	-----
25 MKLP1 var.2	1861	TATGAGGAAGATAAACGCAATTGCAACAGGAACCTGAAACTCAGAACCCAGAAACTTCAG
MKLP1 AS	1	-----
MKLP1 var.2	1921	CGACAGTTTCTGACAAACGCAGATTAGAACCCAGGTTGCAAGGCATGGTGACAGAAACG
MKLP1 AS	1	-----
MKLP1 var.2	1981	ACAATGAAGTGGGAGAAAATGTGAGCGTAGAGTGGCAGCCAAACAGCTGGAGATGCAG
30 MKLP1 AS	1	-----
MKLP1 var.2	2041	AATAAACTCTGGTTAAAGATGAAAAGCTGAAACAACACTGAAGGCTATTGTTACTGAACCT
MKLP1 AS	1	-----
MKLP1 var.2	2101	AAAACTGAGAACGCCAGAGAGACCCCTCTGGGAGCGAGATCGAGAAAAAGTTACTCAAAGA
MKLP1 AS	1	-----
35 MKLP1 var.2	2161	TCTGTTCTCCATCACCTGTGCCTTACTCTTCAACCTGATCAGAACGCACCACCAATT
MKLP1 AS	1	-----
MKLP1 var.2	2221	CGTCTCCGACACAGACGATCACGCTCTGCAGGAGACAGATGGTAGATCATAGCCCGCC
MKLP1 AS	1	-----
MKLP1 var.2	2281	TCTAACATGCAAACAGTCAAACAGTCATGCAGCCACATGTCCTCATGCCATCACAGTATCT
40 MKLP1 AS	1	-----
MKLP1 var.2	2341	GTTGCAAATGAAAAGGCACTAGCTAAGTGTGAGAAGTACATGCTGACCCACCAGGAACCA
MKLP1 AS	1	-----
MKLP1 var.2	2401	GCCTCCGATGGGAGATTGAAACTAAACTAATTAAAGGGTGATATTATAAAACAAGGGGT
MKLP1 AS	1	-----

MKLP1 var.2	2461	GGTGGACAATCTGTTCAAGTTACTGATATTGAGACTTAAAGCAAGAATCACCAAATGGT
MKLP1 AS	1	-----
MKLP1 var.2	2521	AGTCGAAAACGAAGATCTTCCACAGTAGCACCTGCCAACCAGATGGTCAGAGTCTGAA
MKLP1 AS	1	-----
5 MKLP1 var.2	2581	TGGACCGATGTAGAAACAAGGTGTTCTGTGGCTGTGGAGATGAGAGCAGGATCCC <b>AGCTG</b>
MKLP1 AS	1	----- <b>AGCTG</b>
MKLP1 var.2	2641	<b>GGACCTGGATATCAGCATCACGCACAACCCAAGCCAAAAAGCCATGAACGTACAGTCCC</b>
MKLP1 AS	6	<b>GGACCTGGATATCAGCATCACGCACAACCCAAGCGC-AAAAGCCATGAACGTACAGTCCC</b>
MKLP1 var.2	2701	<b>AGTACTGAAAGAACATTTCATTTGTGTGGATGATTCTCGAAAGCCATGCCAGAAGCAG</b>
10 MKLP1 AS	65	<b>AGTACTGAAAGAACATTTCATTTGTGTGGATGATTCTCGAAAGCCATGCCAGAAGCAG</b>
MKLP1 var.2	2761	<b>TCTTCCAGGTCACTTGAGAACTCCAGCTTGTGAAAATCACGGACCTCAGCTACATC</b>
MKLP1 AS	125	<b>TCTTCCAGGTCACTTGAGAACTCCAGCTTGTGTT-AAAATCACGGACCTCAGCTACATC</b>
MKLP1 var.2	2821	<b>ATACACTGACCCAGAGCAAGCTTCCCTATGGTCCAAAGACAACTAGTATTCAACAAA</b>
MKLP1 AS	184	<b>ATACACTGACCCAGAGCA-----</b>
15 MKLP1 var.2	2881	CCTTGTATAGTATATGTTGCCATATTAATATTAATAGCAGAGGAAGACTCCTTTTT
MKLP1 AS	201	-----
MKLP1 var.2	2941	CATCACTGTATGAATTTTTATAATGTTTTTAAATATATTGTATACATTATAAA
MKLP1 AS	201	-----
MKLP1 var.2	3001	CTAATTCACACAAGTGTGCTTAGATGATTAAGGAAGACTATATCTAGATCATGTCTG
20 MKLP1 AS	201	-----
MKLP1 var.2	3061	ATTTTTTATTGTGACTTCTCCAGCCCTGGCTGAAATTCTTAAGGTTTATAAACAAATG
MKLP1 AS	201	-----
MKLP1 var.2	3121	CTGCTATTATTAGCTGCAAGAATGCACTTTAGAACTATTGACAATTAGACTTTCAAA
MKLP1 AS	201	-----
25 MKLP1 var.2	3181	ATAAAAGATGTAAATGACTGGCCAATAATAACCATTAGGAAGGTGTTGAATTCTGTA
MKLP1 AS	201	-----
MKLP1 var.2	3241	TGTATATATTCACTTCTGACATTAGATATGCCAAAGAATTAAATCAAAAGCACTAA
MKLP1 AS	201	-----
MKLP1 var.2	3301	GAAATAAAAAAAAAAAAAAAA
30 MKLP1 AS	201	-----

**Figure 4**

**MKLP1 siRNA (SEQ ID NO:4)**

5    5'       AAGTATTGGCACTCACACCA      3

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**Figure 5**

**Validation of the anti-apoptotic effect of MKLP1 -  
Sensitization to FAS mediated apoptosis by MKLP1 AS fragment and  
MKLP1 siRNA ("RNAi")**

